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(71) Applicant (for all designated States except US): FILTRONIC LK OY [FI/FI]; Takatie 6, FI-90440 Kempele (FI).

(72) Inventors; and

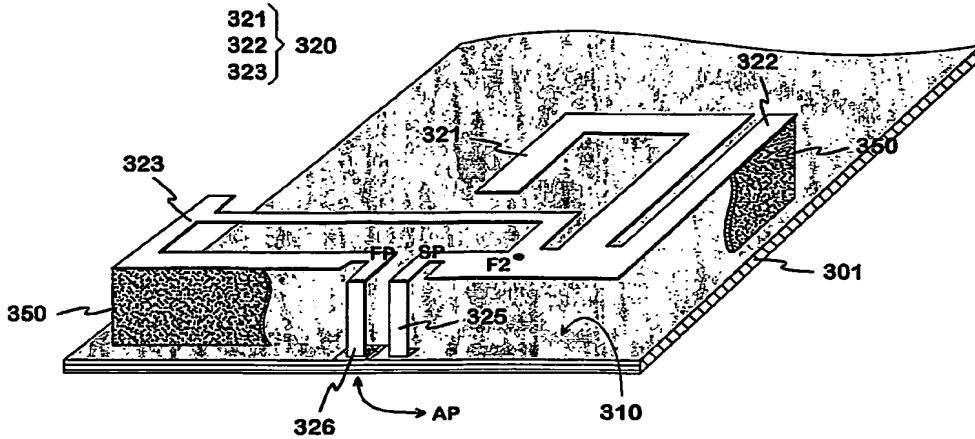
(75) Inventors/Applicants (for US only): KORVA, Heikki [FI/FI]; Peltorivi 4 C 14, FI-90440 Kempele (FI). OL-LITERVO, Petra [FI/GB]; 159B Finborough Road, London SW10 9AP (GB).

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(54) Title: MULTIBAND PLANAR ANTENNA



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(57) Abstract: A multiband planar antenna intended for small-sized radio devices and a radio device. The basic structure of the antenna is a two-resonance PIFA, the radiating plane (320) of which has a structural part (321) corresponding to the lowest operating band and a structural part (322) corresponding to the upper operating band. In addition, a loop resonator (323) operating as a radiator is formed in the radiating plane. The ground conductor (325) of the feed line of the loop is at the same time the short-circuit conductor of the PIFA. The second conductor (326) of the feed line is connected to the opposite end of the loop, and it operates as the feed conductor of the PIFA. At the same time the structural part (321) of the radiating plane that corresponds to the upper operating band is located between the loop and the structural part of the PIFA that corresponds to the lower operating band, in order to reduce the interference between them. The resonance frequency of the loop radiator is arranged on the upper operating band of the antenna, for example. Thus the loop improves the matching of the antenna on the upper operating band and the matching and efficiency on the lowest operating band as well. This is based on additional inductance caused by the loop conductor (323) that functions as a part of the feed conductor of the PIFA.

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